

REMARKS

The present Office Action states that claims 1-108 are now pending in the application. Claims 15-28, 45-51, 66-68, 97 and 98 are allowed. Claims 3-13, 30-34, 38-42, 55-65, 71, 73, 77-82, 96, 100, 102, 104 and 106 are allowable if rewritten in dependent form. Claims 1, 2, 14, 29, 35-37, 43, 52-54, 69, 70, 72, 74-76, 83-89, 99, 101, 103, 105 and 107 are rejected. Amendments have been made to Claims 54, 69 and 74. Minor amendments have been made to the specification and the drawings. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

The above amendments and following remarks are believed to be fully responsive to the Outstanding Office Action. Upon entry of these amendments and consideration of these remarks, Applicant submits that all of the pending Claims will be allowable.

DRAWINGS

Three numerals 80, 65, 66, which represent the plug, the internal bore of the pin fitting, and the proximal internal bore of socket fitting, respectively, are missing on the drawings. Applicant has attached revised drawings for the Examiner's approval. In the Replacement Sheet, the three missing numerals have been added in Figure 5A to show the represented elements.

SPECIFICATION

Applicant corrects the typographical error in paragraph [0044].

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 2 and 14 stand rejected under 35 U.S.C. §102 as being anticipated by Gratziani U.S. 5,074,802. Applicant respectfully requests reconsideration of these rejections in light of the following remarks.

Gratziani discloses a quick disconnect connector for a plasma arc torch, which is used to connect the power and gas supplies to the torch lead, rather than a disconnect used to connect the torch head to the torch lead. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Gratziani cannot anticipate Claim 1 because Gratziani does not teach a modular plasma arc torch comprising a torch head, a torch lead and a quick disconnect as defined in Claim 1. Nor can Gratziani render the modular plasma arc torch of Claim 1 obvious. The specification of Gratziani states:

The current standard industry practice is to connect the power and gas supplies to the plasma arc torch using leads...that are connected inside the power supply permanently....This arrangement, however, does not allow a quick disconnect, and it is not satisfactory for the connection at the power supply... Changing torches or power supplies therefore becomes a cumbersome, time-consuming task. (Col. 1, Lines 43-56).

The above statements show the problem to be solved in Gratziani is different from that in this application. Since Gratziani does not anticipate the problem occurring in the fixed connection between the torch head and the torch lead, Gratziani cannot anticipate or render obvious a modular plasma arc torch with a quick disconnect between the torch head and the torch lead as defined in Claim 1.

Claims 2 and 14 each depend directly or indirectly from Claim 1 and distinguish over Gratziani for at least the reasons stated above in connection with Claim 1. Accordingly, Applicant respectfully requests that the rejection of Claims 1-2 and 14 be withdrawn.

Claim 29, 35, 36 stand rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claims 29, 35, 36 each discloses a plasma arc torch head with a quick disconnect member. The quick disconnect member is disposed within a proximal end of the torch head in Claim 29, within a distal end of the torch head in Claim 35, and at each end of the torch head in Claim 36. Applicant respectfully submits that Claims 29, 35 and 36 are not anticipated by Gratziani because Gratziani does not disclose a plasma arc torch head with a quick disconnect member disposed within the **torch head** to allow quick assembly/disassembly of the torch head **to/from**

a component within the plasma arc torch, as defined in Claims 29, 35 and 36. Gratziani is limited to a quick disconnect between the power/gas supplies and the torch lead. Applicant respectfully requests that the rejection of Claims 29, 35 and 36 be withdrawn.

Claims 37, 43 and 44 stand rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claims 37, 43, 44 each discloses a plasma arc torch lead with a quick disconnect member. The quick disconnect member is disposed within a distal end of the torch lead in Claim 37, within a proximal end of the torch lead in Claim 43 and within each end of the torch lead in Claim 44. Applicant respectfully submits that Claims 37, 43 and 44 are not anticipated by Gratziani because Gratziani does not disclose a plasma arc torch lead with a quick disconnect member disposed within the torch lead to allow quick assembly/disassembly of the torch lead **to/from a component within the plasma arc torch**, as defined in Claims 37, 43 and 44. Gratziani is limited to a quick disconnect between the power/gas supplies and the torch lead. Accordingly, Applicant respectfully requests that the rejection of Claims 37, 43 and 44 be withdrawn.

Claims 52 and 53 stand rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claims 52 and 53 each defines a gas control device with a quick disconnect member disposed within the gas control device. The quick disconnect member is disposed within a distal end of the gas control device in Claim 52 and within a proximal end of the gas control in Claim 53. Applicant respectfully submits that Claims 52 and 53 are not anticipated by Gratziani because Gratziani does not disclose a gas control device, let alone with a quick disconnect member disposed within either end of the gas control device. Accordingly, Claims 52 and 53 cannot be anticipated and Applicant respectfully requests that the rejection of Claims 52 and 53 be withdrawn.

Claim 54 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claim 54 has been amended to clarify that the socket adapter has radial bores which extend from an exterior surface of the adapter and which cause the socket adapter to fracture should an object

other than the pin fitting be inadvertently forced into the socket adapter. Applicant respectfully submits that Claim 54 is not anticipated by Gratziani because Gratziani does not disclose the use of radial bores to prevent an object other than the pin fitting from being inadvertently forced into the socket adapter. Accordingly, Applicant respectfully requests that the rejection of Claims 54 be withdrawn.

Claims 69-70 stand rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claim 69 has been amended to clarify that the socket housing has radial bores which cause the socket housing to fracture should an object other than the quick disconnect member be inadvertently forced into the socket housing. Applicant respectfully submits that Claim 69 is not anticipated by Gratziani because Gratziani does not disclose the use of radial bores to prevent an object other than the pin fitting from being inadvertently forced into the socket housing.

Claim 70 depends from Claim 69 and distinguishes over Gratziani for at least the reasons stated above in connection with Claim 69. Accordingly, Applicant respectfully requests that the rejection of Claims 69-70 be withdrawn.

Claim 72 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Applicant respectfully submits that Claim 72 is not anticipated by Gratziani because Gratziani does not disclose a quick disconnect member with a tapered internal shoulder to facilitate insertion of an adjacent quick disconnect member, and radial bores to cause the socket housing to fracture should an object other than the quick disconnect member be inadvertently forced into the socket housing, as defined in Claim 72. Accordingly, Applicant respectfully requests that the rejection of Claim 72 be withdrawn.

Claim 74 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claim 74 has been amended to define a plug disposed within the socket fitting for inhibiting electrical contact of an object inadvertently inserted within the socket fitting. Gratziani cannot anticipate Claim 74 because Gratziani does not disclose the use of a plug to inhibit electrical contact of an

object inadvertently inserted within the socket fitting. Accordingly, Applicant respectfully requests that the rejection of Claim 74 be withdrawn.

Claims 75-76, 83-89 stand rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Claim 75 defines a modular plasma arc torch comprising a plurality of torch components and a plurality of quick disconnects operatively engaged **between the torch components**. Gratziani cannot anticipate Claim 75. First of all, Gratziani discloses **only one** quick disconnect connector between the electrical power/gas source and the torch lead. As discussed earlier in connection with Claim 1, Gratziani cannot anticipate a quick disconnect used to connect the torch head to the torch lead. Second, Grantiani does not anticipate a modular plasma arc torch with a **plurality of quick disconnects engaged between a plurality of torch components**.

Claims 76 and 83-89 each depend directly or indirectly from Claim 75 and distinguish over Gratziani for at least the reasons stated above in connection with Claim 75. Accordingly, Applicant respectfully requests that the rejection of Claims 75-76 and 83-89 be withdrawn.

Claim 101 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Gratziani cannot anticipate Claim 101 because Gratziani does not expressly or implicitly disclose a method of assembly a plasma arc torch comprising the step of placing a quick disconnect member disposed within the distal end of the torch lead and the step of placing a quick disconnect member disposed within the distal end of the gas control device to quickly assemble the torch head, the torch lead and the gas control device. Accordingly, Applicant respectfully requests that the rejection of Claim 101 be withdrawn.

Claim 103 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Referring to the arguments in connection with Claim 1, since Gratziani does not anticipate a modular plasma arc torch with a quick disconnect operatively engaged between the torch head and the torch lead, Gratziani cannot anticipate a method of disassembling a plasma arc torch in

which the torch head and the torch lead are quickly disassembled. Accordingly, Applicant respectfully requests that the rejection of Claim 103 be withdrawn.

Claim 105 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Since Gratziani cannot anticipate a method of assembling a plasma arc torch as defined in Claim 101, Gratziani cannot anticipate a method of disassembling a plasma arc torch as defined in Claim 105. Accordingly, Applicant respectfully requests that the rejection of Claim 105 be withdrawn.

Claim 107 stands rejected under 35 U.S.C. §102 as being anticipated by Gratziani. Since Gratziani cannot anticipate the application of a quick disconnect in the plasma arc torch, it cannot anticipate a method of assembling a plasma arc torch in which the torch components are quickly assembled through a quick disconnect member. Accordingly, Applicant respectfully requests that the rejection of Claim 107 be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

Claims 90-93 stand rejected as being unpatentable over Gratziani. Claims 90-93 each depends directly or indirectly from Claim 75. Claims 90-93 each distinguishes from Gratziani for at least the reasons stated above in connection with Claim 75. Accordingly, Applicant respectfully requests that the rejection of Claims 90-93 be withdrawn.

Claims 94-95 stand rejected as being unpatentable over Gratziani in view of Kester U.S. 3,629,547. Claim 94 is directed to a modular plasma arc torch handle comprising a first handle half with at least one flexible tab and a second handle half with at least one receptacle wherein the first handle half and the second handle half are connected through the engagement between the flexible tab and the receptacle.

Gratziani cannot render Claim 94 obvious in view of Kester. First of all, Gratziani does not show a modular plasma arc torch handle. Second, Kester does not disclose a handle comprising a first handle half with at least one flexible tab and a second handle half with at least

one receptacle. The two halves of the handle disclosed in Kester are secured by a plurality of screws, resulting in a handle composed of more elements and requiring more assembly time. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. A handle having more elements cannot provide any teaching, suggestion or motivation to make a handle with a simpler structure composed of fewer elements as defined in Claim 94.

Claim 95 depends from Claim 94 and distinguishes from Gratziani in view of Kester for at least the reasons stated above in connection with Claim 1. Accordingly, Applicant respectfully requests that the rejection of Claims 94-95 be withdrawn.

CONCLUSION

It is believed that all of the stated grounds of objection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding objections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7524.

Respectfully submitted,

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By: Kelly K. Burris
Kelly K. Burris
Reg. No. 46, 361

Harness, Dickey & Pierce, P.L.C.
7700 Bonhomme Rd., Suite 400
St. Louis, MO 63105
(314) 726-7500